



# MBIE Submission to the Productivity Commission's inquiry into "new models of tertiary education"

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The Ministry of Business, Innovation and Employment (MBIE) welcomes the opportunity to provide comment that inputs into the Productivity Commission's inquiry into tertiary education in New Zealand.

## **MBIE's role in tertiary education**

MBIE has a number of different roles that impact on, and are influenced by, the tertiary education system. These include:

- Joint leadership alongside the Ministry of Education on the development of the Tertiary Education Strategy.
- Joint monitoring role alongside the Ministry of Education of the Tertiary Education Commission as a crown entity.
- Policy roles in various labour market related areas, for example: skills and employment, science, innovation (ICT Graduate Schools), immigration, regional economic development, labour market regulation (employment relations and standards, and health and safety).
- Reporting to the Minister for Tertiary Education, Skills and Employment (TESE) on Employment portfolio matters.
- Coordinating the Safe and Skilled Workplaces stream of the Business Growth Agenda across government.
- Providing periodic reports on the state of the labour market.

In addition to these roles on-going engagement with the wider labour market and employers has enabled MBIE to support employers, wider community and the tertiary system to better connect and develop new models of delivery. This includes the use of group training schemes in the Sector Workforce Engagement Programme (SWEP) and responses to the Regional Growth Studies.

## **General comments**

This submission is focused on comments related to the following areas:

- a. employer- and industry-linked approaches, and
- b. *innovation* as an outcome, as well as a method.

## ***Employer and industry-linked approaches***

In MBIE's view, the Productivity Commission's inquiry would benefit from a more prominent exploration of employer and industry linked approaches as innovation mechanisms with the potential to improve productivity. New Zealand needs tertiary education organisations (TEOs) and industry to work together more closely, to enhance knowledge transfer and the relevance of the skills and knowledge developed. This also enhances industry's understanding of the tertiary education system and graduate skills.



We need to change TEOs' behaviour so that they proactively seek employer engagement, and we also need employers to support providers by identifying demand for skills, helping anticipate demand and plan ahead, providing time and resources in the design and delivery of education and training, and taking responsibility for providing on the job training. When industry and TEOs invest time, money, and expertise in skills development to ensure that graduates gain both transferable skills and specific qualifications that are matched to labour market demand, this should lead to better employment outcomes for graduates, and improved skills utilisation.

Skills need to be continuously updated to keep up with the changing world of work, including significant shifts in technology and emerging roles in the labour market. This requires that firms and tertiary education organisations and the wider sector to be involved in an ongoing way to ensure that skills remain current and utilised.

A significant body of evidence confirms a link between better skills utilisation in firms and business profitability and productivity. Skills utilisation is a weakness within the overall skills landscape in New Zealand for a range of reasons. One such reason is the relatively weak relationships between employers and tertiary education. We need a better understanding of the drivers for firm investment in training, and to develop better links between firms and tertiary institutions with a greater focus on skills acquisition within firms.

A focus on strengthening the links between education and industry is a general response a number of governments around the world have taken to skills issues, like skills matching and skills utilisation. The 2012 OECD Skills Strategy makes the point that skills development is much more effective if the world of learning and the world of work are linked together, an approach known as work integrated learning (WIL). There is empirical evidence of workplace learning programmes that are implemented as a formal aspect of higher education of having positive labour market outcomes.<sup>1</sup>

A diverse range of programmes fit the definition of the term 'work integrated learning', and a wide variety of terms are used to describe it, including cooperative education, practicums, internships, service learning, etc. The research in this area however identifies that the types of arrangements that are effective are those that take place in the workplace or community and are those where the work portion is integrated as a formal part of a TEO's curriculum.<sup>2</sup> This type of experience involves students both working to learn and learning to work. Around the world, work integrated learning has been found to provoke TEOs to change their systems to find ways to engage in partnerships with employers in a mutually beneficial way.

An example of where this is developed is through SWEP, led by MBIE and the Ministry of Social Development. One initiative in this programme has supported dairy employers to develop new employment relationships and co-develop new training programmes with TEOs that better meet skill requirements of employers and utilise employer resources for pre-employment experience. Such a programme requires sector leadership and the flexibility and incentives for developing new models of delivery. Another is the ICT graduate schools. Both however required government intervention to support greater coordination between the tertiary sector and employers.

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<sup>1</sup> See for example Mason et al, *Employability Skills Initiatives in Higher Education: What effects do they have on graduate labour market outcomes?* National Institute of Economic and Social Research, London, 2006.

<sup>2</sup> *Work Integrated Learning: A guide to effective practice.* Lesley Cooper, Janice Orrell and Margaret Bowden. Routledge, London, 2010.

A significant mutual benefit is the production of more relevant and employment focused programmes, which meet the needs of individuals, employers and society. Graduates are more likely to be employable, work ready and equipped with the right skills and mind sets. Employers have advanced access to potential future employees and the ability to shape the skills they develop before entering the labour market. This specifically relates to the inquiry's terms of reference as mechanisms to maintain relevance will be increasingly important as skill demands change, and demand for upskilling and retraining increases. Overall, the learner transition is improved, and it is considered an effective way to grow new talent and address long term skill needs.

There is scope to encourage more of this kind of practice in New Zealand. WIL is not a new concept and there are many opportunities for employers to provide resources and direction for the design and delivery of courses with the tertiary sector. However, given the weak incentives at on employers to work directly with TEOs (as noted in *New models of tertiary education*, page 20), WIL programmes can be challenging to set up and administer. MBIE would support a closer examination of the benefits of WIL and WIL-like arrangements, with a view to identifying the productivity gains to be made, and ways of overcoming barriers to implementing WIL programmes.

### ***Innovation as an outcome***

The New Zealand economy needs more innovation. That depends, not just on the skills and attitudes of the workforce at all levels and sectors, but in creating a system-level dynamic to support innovation. MBIE's view is that the Productivity Commission should consider how the tertiary system (and the government policy that shapes it) interacts with industry in a way that stimulates an innovative system, with delivery models as a key but connected part.

Innovation within delivery models is important to effectively and efficiently deliver tertiary sector objectives, but this innovation is often connected to the tertiary sector's broader role in the New Zealand innovation system. This reinforces the first area of this submission, as creating greater connections between industry, firms and tertiary education through delivery and more broadly are economically important. In addition to the provision of skills, this role includes the delivery of industry-relevant research and increasing in the flow of knowledge and technology transfer between industry and research organisations in general, which in part improves and enables the delivery of skills.

### ***Considering tertiary innovation as a system-level dynamic***

In MBIE's view, the current inquiry would benefit from considering the system-level components and linkages. A recent report by the MIT Skoltech Initiative included the need to develop three complementary elements of an innovative tertiary system<sup>3</sup>:

- a. a strong university agenda for entrepreneurship and innovation, including developing and delivering cross-disciplinary courses and diplomas (entrepreneurial teaching and learning);
- b. the presence of industry-funded research and frequent industry licencing of university-owned IP (continuous knowledge transfer between research and industry);
- c. national and regional ability to engage with university-driven entrepreneurship and innovation, both externally and within the university itself (application of entrepreneurial education through human capital development).

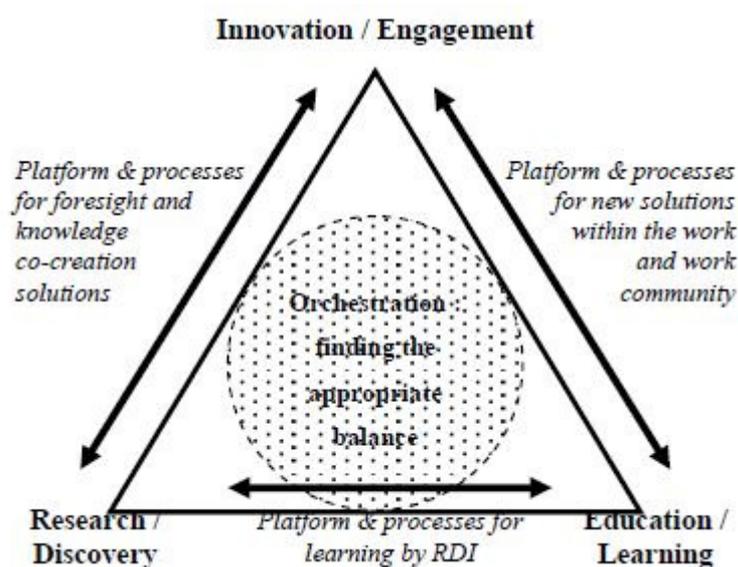
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<sup>3</sup> MIT Skoltech Initiative. (June 2014) Creating university-based entrepreneurial ecosystems: Evidence from emerging world leaders.

While the focus of the Commission’s inquiry is on new models of tertiary education delivery, strongly related to the first element of this model, it is useful to be mindful of the wider system-level dynamics and connections. An example of this is the legislative requirement for Bachelors and above qualifications to be taught mainly by people engaged in research.

Recent OECD findings advocate a similar model, focusing on an integrated approach to research, innovation and education policy that emphasises the two-way nature of the links between these components. The Knowledge Triangle framework recognises that tertiary institutions play a central role in national innovation systems, generating impacts that are greater than the sum of an individual institution’s outputs (e.g. permitting professors from industry practice to lecture at academic institutions).

**Figure 1 – The OECD Knowledge Triangle<sup>4</sup>**



Both the MIT Skoltech and OECD Knowledge Triangle frameworks emphasise the importance of connections within an ecosystem, whereby tertiary innovation contributes most to national economic growth when all elements, and the links between them, work together to form a whole that is greater than the sum of its parts.

*Increasing interactions between industry and research*

Over and above the opportunity to improve skills through work integrated learning, it is increasingly apparent that the strength of an innovation system depends in part on the entrepreneurial individuals operating within the system. This emphasises the importance for new graduates and firm employees at innovative companies to gain the soft skills required to interact meaningfully with the wider system, suggesting the need for new models of delivery. In recognition of this, the Tertiary Education Commission will be running an entrepreneurial workshop in 2016, bringing successful entrepreneurs into increasingly direct contact with university faculty and students.

Research activities in New Zealand are primarily conducted through Crown Research Institutes, TEOs and independent research organisations. Our research system produces quality research with high

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<sup>4</sup> OECD Committee for Scientific and Technological Policy. (2016). Emerging Policy Issues in the Knowledge Triangle: OECD Conference Paper, Paris.

citation levels relating to our world-leading concentrations of expertise. We also engage productively with international research. However we could be obtaining greater economic benefits from this research, and there is an opportunity for universities to play a more transformative role in this process.

The entrepreneurial education currently offered in New Zealand (i.e. the Masters of Commercialisation and Entrepreneurship at the University of Auckland or the Master of Innovation and Commercialisation at Victoria University of Wellington) is making steps towards increasing the system-level interaction between industry and research. Integrated research-industry events sponsored by the Commercialisation Partners Network organisation (i.e. Get-Funded workshops; Mathematics in Industry New Zealand) bring researchers and industry together around shared problems.

The University of Auckland also spearheads the Velocity entrepreneurial programme which offers workshops and funding for students' entrepreneurial ventures through a competitive process. The tertiary education sector, and the extent to which it engages with firms and industry, is therefore a key driver of these initiatives, which have the potential to create more dynamic, long-term change for greater system-wide innovation. We consider that the Productivity Commission should take this aspect of tertiary sector activity into consideration and how it connects to its focus on modes of delivery.

### Conclusion

MBIE looks forward to working with the Productivity Commission throughout this inquiry.

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